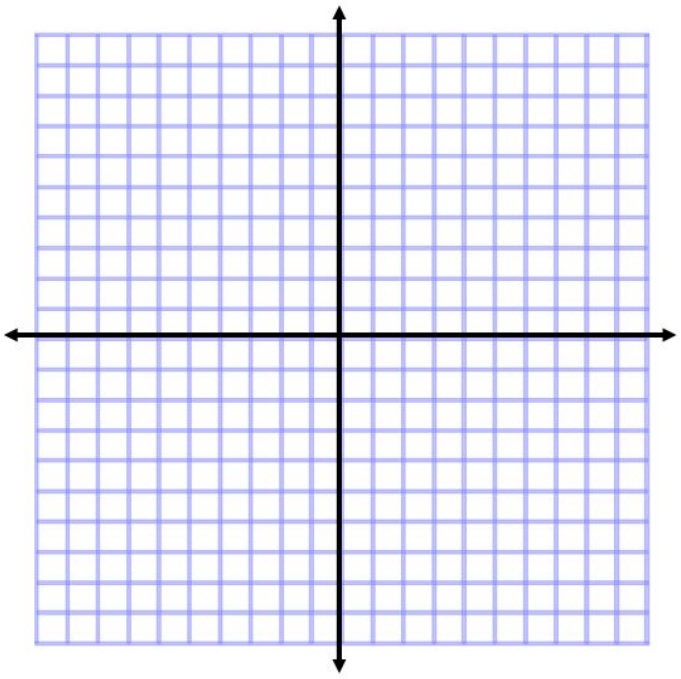
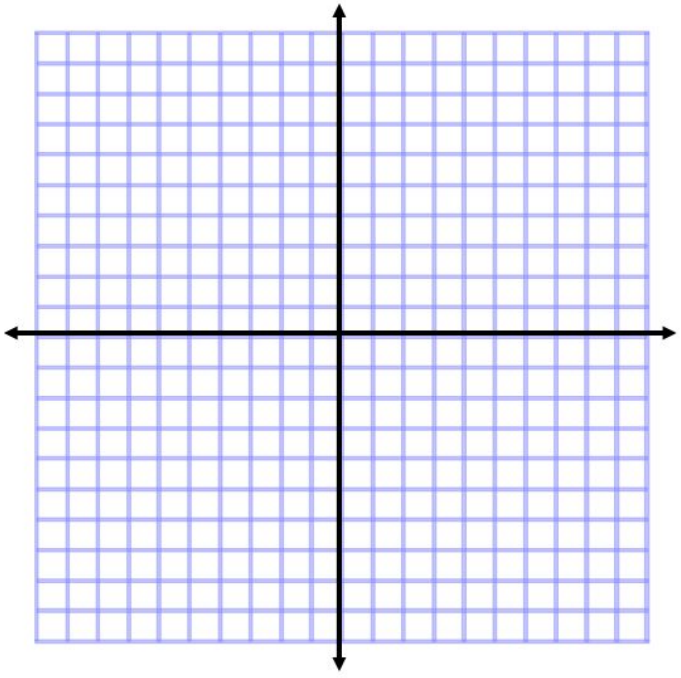
Name: _____

Unit 3 (Linear Inequalities, Standard Form) Practice Test

Part One: Matching: Write the CAPITAL LETTER of the term or symbol that matches each description.

1. _____ the dashed or solid line of a linear inequality 2. _____ the inequality symbol for at minimum 3. _____ the inequality symbol for no more than 4. _____ Ax + By = C 5. _____ the process of replacing a variable with a designated number 6. _____ the inequality symbol for more than 7. _____ the inequality symbol for fewer than 8. _____ the form of a boundary line if the inequality symbol is < or > 9. _____ the form of a boundary line if the inequality symbol is ≥ or ≤ 10. _____ the type of intercept of the coordinate (9, 0) 11. _____ the type of intercept of the coordinate (0, 9) 12. _____ the solution of a system of linear inequalities 13. _____ two or more linear inequalities graphed together	A. system of linear inequalities B. standard form C. solid D. dashed E. boundary line F. ≤ G. ≥ H. < I. > J. substitution K. region L. x-intercept M. y-intercept

Part Two: Graphing Linear Inequalities: Graph each linear inequality. Be sure to be clear whether the boundary line is DASHED or SOLID, name your lines, and test (0, 0) to determine shading.

1. $y > 3x - 7$ 	**Test (0, 0)**
2. $3x + 4y \geq -12$ 	**Test (0, 0)**

Part Three: Algebraic Writing: Answer each question using at least TWO sentences and at least TWO algebraic terms. ECHO THE PROMPTS!

1. Gina claims that (3, -5) is a solution of $y < 2x - 11$. Do you agree with her? Explain your answer.

_____

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2. When is the boundary line of a linear inequality *dashed*? In these cases, is the boundary line part of the solution of linear inequality?

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3. Yvette states that the x-intercept of $5x - 3y = 15$ is (3, 0). Do you agree with her? Explain your answer.

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Part Four: Standard Form of a Linear Equation

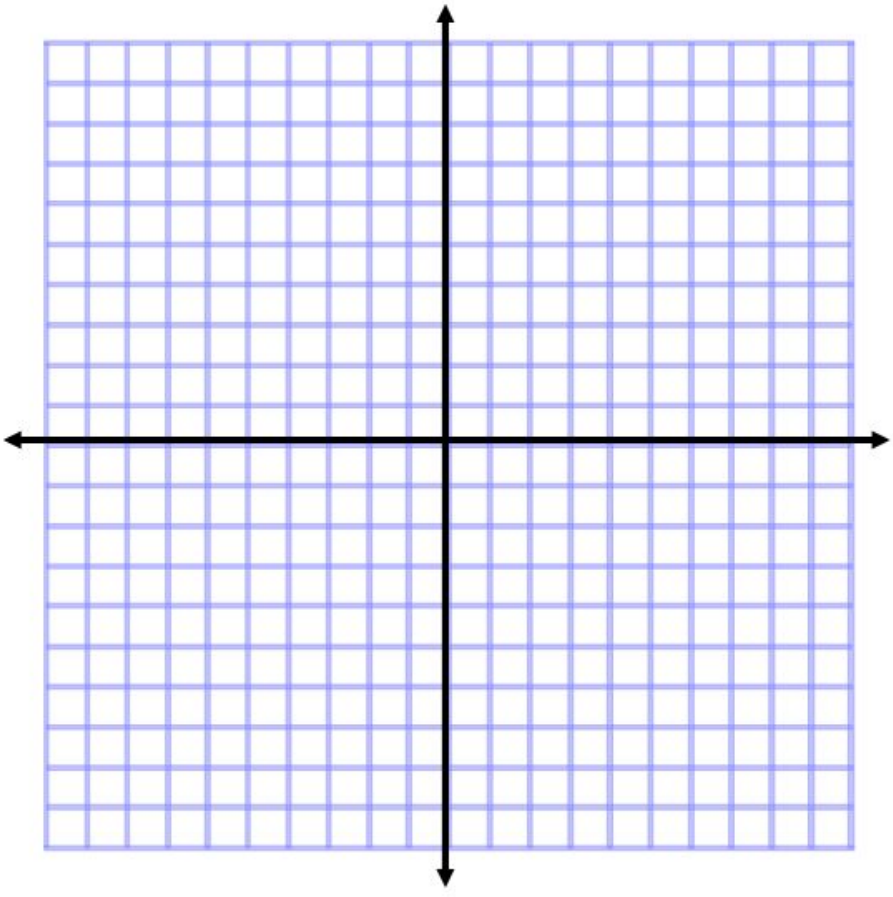
1. Write the coordinates of the x- and y-intercepts of: $4x + 3y = 24$.

x-int: (_____, _____) y-int: (_____, _____)

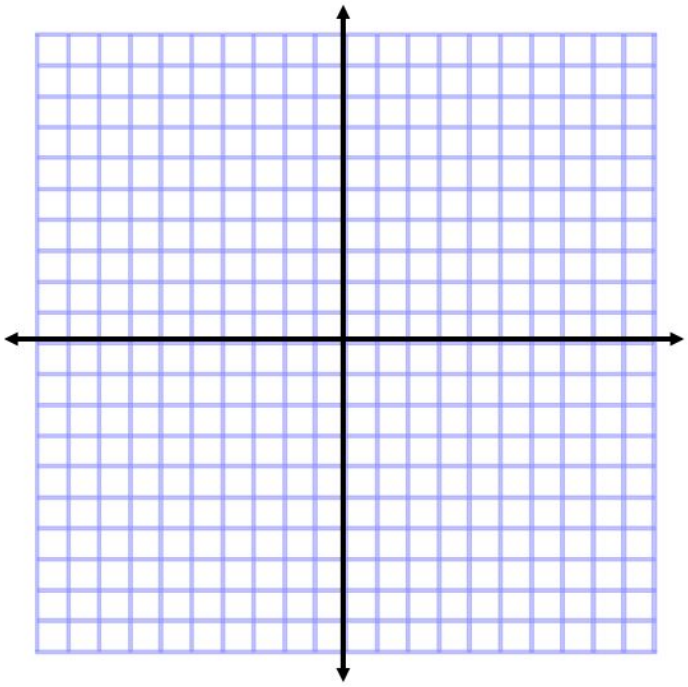
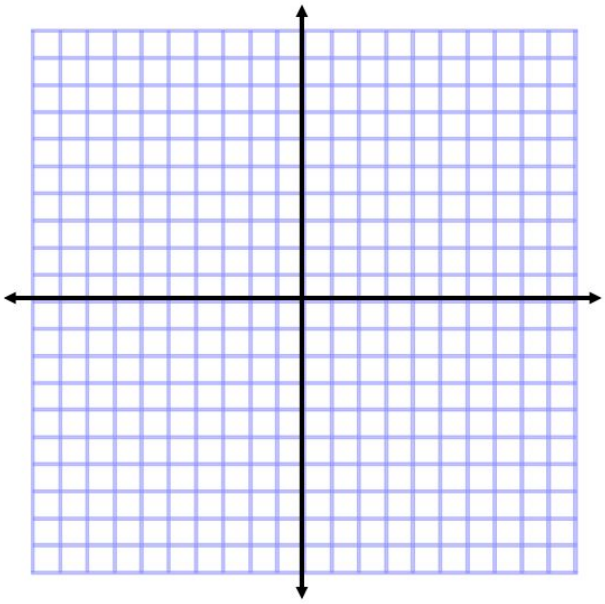
2. Write the coordinates of the x- and y-intercepts of: $x - 3y = -3$.

x-int: (_____, _____) y-int: (_____, _____)

3. Graph EITHER the line from #1 OR #2 above. You must NAME your line.



Part Five: Graphing Systems of Linear Inequalities

1. Please graph the system of linear inequalities. BE CLEAR AS TO WHERE THE SOLUTION ZONE IS. $y > x - 6$ and $2x + 3y \leq -6$ 	**Test Points: You must test one point for each inequality. Show your work.** **Test: (____, ____)** **Test: (____, ____)**
2. Please graph the system of linear inequalities. BE CLEAR AS TO WHERE THE SOLUTION ZONE IS. $y > -1/2x + 4$ and $y < -1/2x - 2$ 	**Test Points: You must test one point for each inequality. Show your work.** **Test: (____, ____)** **Test: (____, ____)**

Part Six: Standard Form Word Problem:

A sidewalk stand is selling scarves for fifteen dollars and hats for ten dollars. The owner wants to

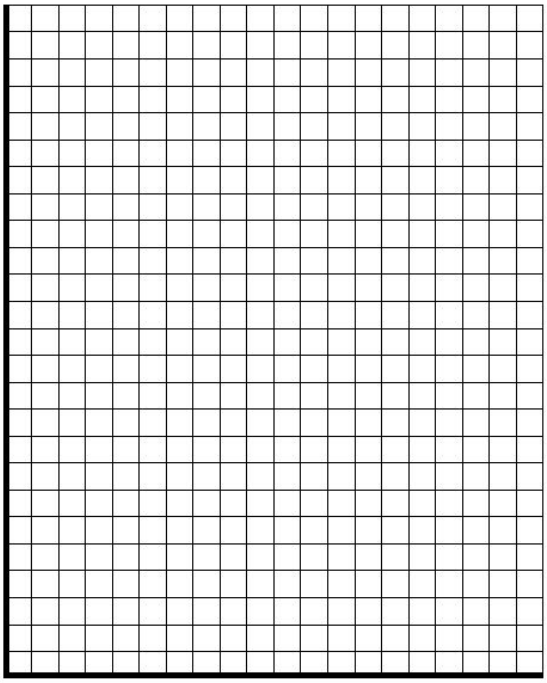
make a minimum of ($\geq$) ninety dollars.

1. Annotate the word problem and define variables that make sense for the situation.

Let _____ = # of scarves Let _____ = # of hats

2. Write a linear inequality in standard form that represents the situation.

3. Graph the linear inequality.



4. If the owner sells two scarves, how many hats must he sell to make a minimum of ninety dollars?

5. If the owner sells nine hats, how many scarves must he sell to make a minimum of ninety dollars?
